DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-019855
Date Inspected: 01-Feb-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 900
OSM Departure Time: 1730
Location: Job Site

CWI Name: Gary Ersham

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Orthotropic Box Girder

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 1W-PP10.5-W2-LSW longitudinal stiffener inside, QA randomly observed ABF welder Xiao Jian Wan ID #9677 perform 3G (vertical) Shielded Metal Arc Welding (SMAW) welding fill pass on the stiffener Complete Joint Penetration (CJP) splice butt joint. The stiffener plates being welded are made of high strength plate material HPS 485W and has a thickness of 30mm. The joint has a double V joint preparation that was welded from one side and after the completion from one it was back gouged and Non Destructive Testing (NDT) tested using Magnetic Particle Testing (MT) and back welded to the other side. The welder was noted using E9018H4R with 1/8" diameter electrode implementing Caltrans approved welding procedure specification (WPS) ABF-WPS-D1. 5-1012-3. The joint being welded was root welded using a ceramic backing. The splice joint was preheated to greater than 200 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blanket located at the opposite side of the plate prior/during welding. The QA Inspector noted the ABF QC Gary Ersham was on site monitoring the in process preheats and welding parameters. During the shift, QA noted ABF QC was closely monitoring the issuance of E9018H4R electrodes due to its limited exposure time allowed. At the end of the shift, cover pass was completed on both sides of the weld and the welder was told to keep the preheat maintenance of more than 200 degrees Fahrenheit after welding and hold it for three hours as required.

At OBG 2W/3W LS6 longitudinal stiffener inside, QA randomly observed ABF welder Hua Qiang Hwang ID #2930 perform 3G (vertical) SMAW back welding fill pass on the stiffener CJP splice butt joint. The joint has a

double V joint preparation that was welded from one side using E9018H4R with 1/8" diameter electrode implementing Caltrans approved welding procedure specification (WPS) ABF-WPS-D1.5-1012-3. The joint being welded was root welded using a ceramic backing, fully welded from one side then back gouged and was ground smooth. The other side was also Non Destructive Testing (NDT) tested using MT prior welding. The splice joint was preheated to greater than 200 degrees Fahrenheit using Miller Proheat 35 Induction Heating System located at the opposite side of the plate prior/during welding. QA noted the ABF QC Gary Ersham was on site monitoring the in process preheats and welding parameters. During the shift, QA noted ABF QC was closely monitoring the issuance of E9018 electrodes due to its limited exposure time allowed. At the end of the shift, fill pass welding on the other side of the stiffener LS6 was still continuing and should remain tomorrow. The welder was also told to keep the preheat maintenance of more than 200 degrees Fahrenheit after welding and hold it for three hours as required.

At OBG 2W-PP13.5-W5-S deck access hole to top deck plate inside, QA randomly observed ABF/JV qualified welder Han Wen Yu perform CJP repair welding. The welder was noted welding in 4G (overhead) position utilizing SMAW with 1/8" diameter E7018H4R electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1001 Repairs. During welding, ABF QC Gary Ersham was noted monitoring the welder and his welding parameters. At the end of the shift, repair welding was still continuing and should remain tomorrow.

At OBG 4W-PP24.5-W5-S deck access hole to top deck plate outside, QA randomly observed ABF/JV qualified welder Jin Pei Wang perform CJP repair welding. The welder was noted welding in 1G (flat) position utilizing SMAW with 1/8" diameter E7018H4R electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1001 Repairs. The welding repair located at Y=1760mm and having excavation profile of 270mm long x 25mm wide x 16mm deep was excavated to a boat shape profile and was tested with MT prior welding. During welding, ABF QC Gary Ersham was noted monitoring the welder and his welding parameters. At the end of the shift, repair welding at this location was completed.

This QA Inspector would like to make correction to an earlier report dated January 28, 2011. In this report it was stated that this QA performed VT/MT on the completely welded 25mm fillet weld of the deviation saddle. The report should read as West Jacking Saddle instead of deviation saddle. The complete corrected paragraph should read as;

"At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC visual inspection of the Complete Joint Penetration (CJP) welding of the two edge plates and two 25mm fillet weld of west jacking saddle. The QA verification was performed to verify that the welding and the visual weld inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification it appeared that the welds and the QC inspection complied with the contract documents".

1. Jacking saddle north fillet weld – QA VT/MT verified
2. Jacking saddle south fillet weld – QA VT/MT verified
3. 8E/9E edge plate 'B' inside – QA VT/MT verified
4. 8E/9E edge plate 'F' inside – QA VT/MT verified

WELDING INSPECTION REPORT

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Summary of Conversations:

No significant conversation ocurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Sang Le 916-764-5650, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer